

NEUROPTERA OBSERVED IN GLEN LOCHAY.

BY KENNETH J. MORTON, F.E.S.

With the view of increasing my acquaintance with some of our more characteristic northern insects, I spent the whole of June of the current year in Glen Lochay, Perthshire. I was not altogether unsuccessful in my object, and as some of the results seem worth recording, I here offer a few notes regarding them.

My previous Highland experiences were practically limited to two short visits to Rannoch. I had been there early this spring, and my first impulse was to return, for there cannot be two opinions about the attractiveness of Rannoch when it has once been seen under favourable conditions. But some one said, "Rannoch is worked to death!" Allowing for the obvious hyperbole, I was forced to admit that there were plenty of other districts less known, and well worthy of attention.

Mr. P. Ewing, one of the Vice-Presidents of the Glasgow Natural History Society, had often urged me to try the Breadalbane country, arguing, from its rich alpine flora, a correspondingly good entomological locality. Circumstances favoured the selection of this district, and there never was any reason to regret the choice. It proved very productive, both in *Neuroptera* (including *Trichoptera*) and *Lepidoptera*. One disadvantage, as far as the former Order was concerned, was the scarcity of "tarns" or "lochans" amongst the hills which I could most conveniently work. Standing-water forms are consequently rather poorly represented in my lists. Loch Tay, no doubt, produces many of these, but I was quite unable to touch it, all my energies being absorbed nearer my quarters. The only Loch which received some attention was Lochan nan Damh, a peaty tarn lying at an elevation of about 1700 feet. A single visit to Lochan na Lairige (not in Glen Lochay, but lying north of Loch Tay, half way towards Glen Lyon), a lake of entirely different type with magnificent rocky surroundings, lying at about 1600 feet, was brought to a speedy close by a downpour of rain, a state of things quite exceptional, as nearly throughout the weather was very fine.

Perhaps the most interesting capture of any was *Æschna borealis*, Zett., a dragon-fly of boreal and alpine distribution, still little known. Taken by Mr. McLachlan in Rannoch in June, 1865, it was subsequently found in the same district by Mr. King and myself in 1889. Its occurrence in Glen Lochay marks an extension southwards of its known range in Scotland, and leaves little doubt that it will also be

found in the intervening higher parts of Glen Lyon. Although I became aware of its presence in Glen Lochay soon after my arrival, I did not succeed in taking it for several days, and it was never common. It occurred singly over a considerable area, and especially affected the sunniest glades and openings, both in the little birch woods which mark the course of the burns down the hill sides, and also in the larger woodlands on the lower ground. It is a sun-loving thing, only flying freely when the weather is really warm; it is fond of basking on light coloured stones, but when so resting is shy and flies off at once when any attempt is made to approach. While the greater number of examples were seen at the comparatively low altitude of 500 or 600 feet, the species was also met with on the "moss hags" around Lochan nan Damh, and I have no hesitation in expressing the opinion that its breeding places are such mountain tarns, whence the insects scatter themselves sporadically over the Glens in search of shelter, warmth and food. In the adult ♂ the blue markings are developed to an extent that almost makes them constitute the ground colour, and this feature makes the insect a striking one on the wing, and along with its smaller size, serves to distinguish it from *Æ. juncea*, which sometimes occurs at the same time and places.

With the exception of *Leucorrhinia dubia*, which was not found in Glen Lochay, the list of dragon-flies is identical with that of species taken at Rannoch in June, 1889 (Ent. Mo. Mag., vol. xxvii, p. 47). *Libellula quadrimaculata*, L., was common and wide spread; a wild insect, rather difficult to capture. *Somatochlora arctica*, Zett.: of this brilliant species, so often found associated with *Æ. borealis*, only a single ♀ was seen with certainty and taken. *Cordulegaster annulatus*, Latr., was found in the greatest profusion, and, compared with the *Æschne*, a wonderfully easy capture, as it hawked about along the burn sides or in hollows on the moors, and even in sheltered places far up the hill sides; at the same time it is a powerful insect, and on occasion its evolutions become rapid and high. *Æschna juncea*, L., only one taken, but the species was beginning to appear more frequently towards the end of the month. *Enallagma cyathigerum*, Charp.: a small blue *Agrion* which just began to appear at Lochan nan Damh at the end of June, but of which I failed to catch an example, no doubt belonged to this species. *Pyrrhosoma minium*, Harris, was common at the Lochan just named, as well as on the low ground.

In such a district *Perlidae* were naturally common. A slightly specialized alpine form of *Dictyopteryx microcephala*, Pict. (small and dark), was not rare at a streamlet running down Meall Ghaordie be-

tween 2000 and 3000 feet, at the middle of June ; it was rather novel to me to see these insects flying about briskly in the hot sunshine and running vigorously over stones, as in the Carluke district the species occurs by the Clyde in March and April, usually latent under stones, and hitherto I have never seen it on the wing. *Perla maxima*, Scop., was frequent under stones at the river Lochay at beginning of the month ; the examples were not large, and the ♂ was of the ordinary short-winged form found in North Britain. *Isogenus nubecula*, Newm. : a very few short-winged females (length of fore-wing, $7\frac{1}{2}$ –8 mm) were taken on June 28th at Lochan na Lairige. *Chloroperla grammatica*, Poda, was common and apparently normal, and the two species of *Isopteryx*, which I determine *tripunctata*, Scop., and *torrentium*, P., also call for no special remark. *Teniopteryx* sp. : similar to that recorded from Rannoch (Ent. Mo. Mag., *loc. cit.*) as *T. trifasciata*, P. ; it is, however, quite different from the true *trifasciata* which does occur at Rannoch, but in April, not in June ; the species now before me is almost certainly undescribed, although it has been known to, and held distinct by, Dr. Ris for some years. Four species of *Nemoura*—*variegata*, Oliv., *inconspicua*, Pict., *cinerea*, Oliv., and *cambrica*, Steph., complete the list of species of which examples have been kept.

The *Ephemeridæ* and *Psocidæ* were almost entirely neglected, and the *Planipennia* were also insufficiently attended to. *Sialidæ* were abundant ; the only example preserved, a small ♀ from Lochan nan Damh, seems to be *S. fuliginosa*, Pict. The genus *Hemerobius* was represented by five species : *H. orotypus*, Wall., *H. marginatus*, Steph., *H. micans*, Oliv., *H. subnebulosus*, Steph., and *H. nervosus*, Fab. *Panorpæ* were swarming on the lower grounds, and they also ascended the hill sides to a considerable height ; they all seemed to belong to various forms of *P. germanica*, L., with the exception of one ♂ *P. communis*, L., a species certainly not common in Scotland.

Excepting the Limnophilid forms peculiar to standing waters, *Trichoptera* as a whole were numerous, both as individuals and species. The following list includes most of the species noticed.

Phryganea striata, L., was common at Lochan nan Damh ; the examples were smaller and darker than the normal form. *P. obsoleta*, McL., began to appear at the end of the month in the same locality.

The only representatives of the genus *Limnophilus* were a few odd specimens of *L. centralis*, *auricula* and *sparsus*.

Stenophylax stellatus, Curt., was common by the Lochay ; of *S. infumatus*, McL., a single ♂ taken at a small burn was more like the Clyde than the dark Rannoch form.

Sericostoma personatum, Spence, common by the river, and also at Lochan nan Damh, the examples ranging in colour from the usual brown to black. *Goëra pilosa*, F., common at the river. *Brachycentrus subnubilus*, Curt., was found in abundance all over the Glen in the early part of June. *Lepidostoma hirtum*, F., and *Lasiocephala basalis*, Kol., were both common by the river.

Beræa pullata, Curt., occurred in a marshy spot; *Molanna palpata*, McL., in myriads around Lochan nan Damh; *Leptocerus cinereus*, Curt., and *L. bilineatus*, L., both by the river, where *Mystacides azurea*, L., also swarmed. *Odontocerus albicorne*, Scop., was just coming out.

Hydropsyche fulvipes, Curt.: a few of this interesting species were beaten from an isolated alder standing on a slope above a rapid stream near the foot of Meall Ghaordie. *Philopotamus montanus*, Donovan., common. *Plectrocnemia conspersa*, Curt., and *P. geniculata*, McL., were frequent. *Polycentropus flavomaculatus*, Pict., was noticed at Lochan nan Damh, where *Cyrrnus trimaculatus*, Curt., and *C. flavidus*, McL., also occurred, the last named species at this Lochan as well as at Lochan na Lairige, assuming a pallid form which approximates to that found by Mr. King at Tongue in Sutherlandshire, totally unlike the type form in appearance, but seemingly identical in structure of the genitalia. *Psychomyia pusilla*, F., at the river.

The *Rhyacophilidæ* were represented by *Rhyacophila dorsalis*, Curt., *Glossosoma Boltoni*, Curt., and *G. vernale*, Pict.; also *Agapetus comatus*, Pict. Only one Hydroptilid was observed, namely, *H. femoralis*, Eaton.

In the meantime I cannot refer to the *Lepidoptera*, but hope to give some account of them as soon as the Micros have been fully determined.

Carluke, N.B.: October, 1895.

BEMBIDIUM VIRENS, GYLL., AN ADDITION TO THE BRITISH LIST.

BY G. C. CHAMPION, F.Z.S.

I have much pleasure in being able to record this species from Britain. It was found not uncommonly by Mr. R. W. Lloyd and myself on July 6th, 1892, on the shores of Loch Maree, Ross-shire. *B. virens* is allied to *B. prasinum*, Duftschm. (= *olivaceum*, Gyll.)—near which the Loch Maree insect had been placed in my collection and forgotten—a species occurring in various parts of Scotland (Rannoch, Braemar, &c.), as well as in England. It is, however, less